



UNITED STATES PATENT AND TRADEMARK OFFICE

cen
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,746	03/07/2002	Robert D. Feldman	FELDMAN 11-1-1-2-8	2870
46363 7590 01/26/2007 PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			EXAMINER WANG, QUAN ZHEN	
			ART UNIT 2613	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/092,746

Applicant(s)

FELDMAN ET AL.

Examiner

Quan-Zhen Wang

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,12-14,16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-14,16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maddocks et al. (U.S. Patent US 6,483,616 B1).

Regarding claims 1 and 10, Maddocks teaches a method, comprising: reducing the power level of an optical data signal (the drawing, signal from amplifier 8) propagating in the optical fiber path (column 3, lines 44-49. When only one fiber is used for the system, the counter-propagating supervisory channel is propagating in "the optical fiber path".) in response to a loss of a counter-propagating supervisory signal (the drawing, supervisory signal generated from supervisory insert 16) in another optical fiber path (the drawing, fiber 6); reducing counter-propagating optical power (the drawing, data signal from amplifier 15) in response to a loss of the optical data signal (the drawing, the loss of data signal from amplifier 8; column 2, lines 63-67 and column 3, lines 1-15). Maddocks differs from the claimed invention in that Maddocks does not specifically disclose responsive to the loss of the optical data signal, reducing counter-propagating optical signal power output from at least one additional network element. However, reducing counter-propagating optical signal power output from at least one

Art Unit: 2613

additional network element (the drawing, amplifier 18) in response to the loss of the optical data signal is simply repeating the process of for reducing the optical power from amplifiers 11 and 15. It would have been obvious to one having ordinary skill in the art at the time the invention was made to reduce the counter-propagating optical signal power output from at least one additional network element (the drawing, amplifier 18) in response to the loss of the optical data signal, as it is done for amplifiers 11 and 15, in order to permit personnel to effect repairs safely.

Regarding claims 3 and 12, Maddocks further teaches that the step of reducing the power level of the optical data signal and the step of reducing counter-propagating optical power are performed substantially at the same time (column 2, lines 63-67 and column 3, lines 1-12).

Regarding claims 4, the method of Maddocks inherently comprises reducing pump power supplied by at least one pump source (the light signal generated by amplifier 8) coupled to the optical transmission line (the drawing, optical fiber 7).

Regarding claims 5 and 13-14, the method of Maddocks inherently comprises reducing counter-propagating pump power supplied by at least one pump source coupled to the optical transmission line (column 2, line 67 and column 3, lines 1-12).

Regarding claims 6-7, Maddocks further teaches that the power level of the optical data signal is reduced by a predetermined amount such that harm from an optical signal emanating from a fault in the optical transmission line is substantially reduced (column 3, lines 13-17).

Regarding claims 8-9, Maddocks further teaches that the method further comprising the step of restoring the power level of the optical data signal in response to the presence or a notification of the presence of the counter-propagating supervisory signal (column 3, lines 49-58).

2. Claims 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czarnocha et al. (U.S. Patent US 6,504,630 B1) in view of Rowley et al. (U.S. Patent US 4,833,668).

Regarding claims 16 and 20, Czarnocha teaches a network element adapted for use in an optical transmission system, comprising: a first gain element (fig. 1, amplifier 111), for providing an upstream optical signal to an optical transmission line (fig. 1, optical fiber 130); and a controller (fig. 1, CTRL 116), for reducing the power level of the upstream optical signal generated by the first gain element in response to the absence of a counter-propagating supervisory signal (fig. 1, supervisory signal in fiber 131; column 6, lines 4-18); a second gain element (fig. 1, amplifier 112), for providing a counter-propagating downstream optical signal (fig. 1, signal in fiber 131) to an downstream optical fiber path; the controller, for reducing the power level of the counter-propagating downstream optical signal generated by the second gain element to the downstream optical fiber path in response to the loss of an optical signal propagating in the downstream optical fiber path (column 5, line 24 to column 6, line 3. Czarnocha discloses that the controller 126 reduced the optical power output to O2 generated by OA 121 in response to the loss of an optical signal caused by fiber cut 150. The

Art Unit: 2613

description is applicable to the controller 116 when a fiber cut occurs in fiber 131); the controller, in response to the absence of the counter-propagating supervisory signal, provides an indication to a downstream network element (fig. 1, controller 26; column 6, lines 25-39) that the supervisory signal is absent. Czarnocha differs from the claimed invention in that Czarnocha does not specifically teach that the supervisory signal is counter-propagating in the upstream optical fiber path. However, it is well known in the art to counter-propagate a supervisory signal in the same fiber path for the signal. For example, Rowley discloses counter-propagating a supervisory signal in the same fiber path (fig. 2, supervisory from second station to first station and detected at first station by supervisory and error detector circuit 16) and carrying out normal fault checks (column 5, lines 27-36) using the supervisory signal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the system of Czarnocha to counter-propagate a supervisory signal in the upstream optical fiber, as it is taught by Rowley, in order to quickly detect the fault if there is a fiber break.

Regarding claim 18, Czarnocha further teaches that the network element comprises a repeater (fig. 1, OA 111).

Regarding claim 19, the gain element (fig. 1, amplifier OA 111) inherently comprises at least one of an optical amplifier and a pump source.

Response to Arguments

Art Unit: 2613

3. Applicant's arguments on claims 1, 4-5, 8-10, 13-15, and 20 have been fully considered but they are moot in view of the new ground of rejection.

4. Applicant's arguments on claims 16 and 18-20 have been fully considered but they are not persuasive.

Regarding claims 16 and 18-19, Applicant argues that Czarnocha does not teach either counter-propagating supervisory. Examiner respectfully disagrees with Applicant. As it is clearly shown in fig. 1, the supervisory signal is counter-propagating in 131. The controller reduces the optical signal power from OA 111 in response to the absence of the counter-propagating in 131 (fig. 2 and column 5, lines 24-59).

Applicant argues that the controller of Czarnocha does not teach indicating to a downstream network element that the supervisory signal is absent. Examiner respectfully disagrees with Applicant. Czarnocha specifically disclose that "it should be noted that appropriate messaging can be implemented to inform the user that the automatic power reduction or shot-down feature has been invoked." Please note that **as an example**, Czarnocha further discloses that "message indicative of the detection of loss of signal power and supervisory signal power at an optical amplifier 121 can be communicated to controller 126, which in turn can generate the appropriate messaging through the system for the user" (emphasis added). Because the user can be on both upstream and downstream sides, the disclosure of Czarnocha reads on the claimed limitations with broadest reasonable interpretation of the claimed invention as a whole and the broadest reasonable interpretation of the reference as a whole.

Applicant argues that the counter-propagating supervisory signal of Czarnocha is not in the upstream fiber. However, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). For the instant case, Czarnocha differs from the claimed invention in that Czarnocha does not specifically teach that the supervisory signal is counter-propagating in the upstream optical fiber path. However, it is well known in the art to counter-propagate a supervisory signal in the same fiber path for the signal. For example, Rowley discloses counter-propagating a supervisory signal in the same fiber path (fig. 2, supervisory from second station to first station and detected at first station by supervisory and error detector circuit 16) and carrying out normal fault checks (column 5, lines 27-36) using the supervisory signal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the system of Czarnocha to counter-propagate a supervisory signal in the upstream optical fiber, as it is taught by Rowley, in order to quickly detect the fault if there is a fiber break.

In light of the above discussion, the rejection of claim 16 still stands. For the same reasons, the rejections of claims 18-19 still stand.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2613

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoneyama (U.S. Patent US 5,535,037) discloses an optical repeater which transmits a response signal counter-propagating in the fiber path.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
1/22/2007


HANH PHAN
PRIMARY EXAMINER